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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,208	11/04/2003	Kenji Uchiyama	9319S-75/DVA	5177
27572	7590	04/21/2006	EXAMINER	
HARNES, DICKEY & PIERCE, P.L.C.			AHMED, SHEEBA	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	
			1773	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/701,208

Applicant(s)

UCHIYAMA, KENJI

Examiner

Sheeba Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/10/05; 02/07/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendments to claims 1 and 5-11 have been entered in the above-identified application. **Claims 1 and 3-11 are pending.**

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 4-11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an anisotropic conductive adhesive agent comprising an insulating adhesive and electrically conductive particles, does not reasonably provide enablement for an isotropic conductive agent comprising any adhesive (for example, a conductive adhesive) and electrically conductive particles. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

Page 4, paragraph 12, specifically states that the connecting structure according to the invention is a connecting structure with an insulating adhesive agent; and a plurality of conductive particles unevenly distributed therein. Accordingly, the anisotropic adhesive agent **must** contain an insulating adhesive agent and is critical to the invention.

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3. Claims 1 and 3-5, 7-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claim 1 has been amended to recite that the second adhesive layer is "devoid of the electrically conductive particles". Independent claims 7-10 have been amended to recite that a plurality of electrically conductive particles are "included only within the first adhesive layer". However, there is no support for such **negative limitations** in the original disclosure. The Applicants have failed to point to any support and the Examiner was unable to find any support in the Specification or the original claims. Any negative limitation or exclusionary proviso must have basis in the original disclosure and the mere absence of a positive recitation is not basis for exclusion. Appropriate amendment or clarification is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites that a first adhesive layer includes "a plurality of electrically conductive particles disposed therein all adjacent a lamination surface of the first

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adhesive layer". Claim 6 further states that "the first adhesive layer and the conductive particles are aligned at a terminal connection position within the conductive adhesive agent". It is unclear what is meant by such recitations. Are all the particles located adjacent the interface of the first and second adhesive layers? What is a lamination surface? Furthermore, what is a terminal connection position? Claim 6 does not positively recite the first and second terminals and simply states that the anisotropic conductive adhesive agent is used for electrically connecting first terminals and second terminals.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki (US 4,696,764).

Yamazaki discloses an anisotropically conductive composition, which provides electric conductivity between facing electrodes but maintains electric insulation in the lateral direction across the facing direction (Column 1, lines 5-10). The composition comprises (a) a nonconductive base resin and (b) electrically conductive particles incorporated and dispersed in the resin (Column 1, lines 24-27). Example 1 states that the anisotropically conductive composition is printed on a terminal to have a thickness

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of 30 micrometers and contains particles having a diameter of 0.5 micrometers (**hence meeting the limitation that the particle diameter of the electrically conductive particles is smaller than $\frac{1}{2}$ of the thickness of the first adhesive layer**). The composition can also be used to connect circuits with each other and terminals of passive elements (condensers, coils) and active elements (IC, diodes, transistors) of electric component parts. With regards to the limitation that the first adhesive layer and second adhesive layer are formed of the same material, the Examiner takes the position that such a limitation simply implies that the anisotropic material of the claimed invention is simply an adhesive layer containing electrically conductive particles and the product of the claimed invention is the same as that disclosed in the above reference. Claims 9-11 recite that the plurality of electrically conductive particles are included within the adhesive layer only before the anisotropic conductive adhesive agent electrically connects the first terminals to the second terminals and hence simply ***describe the state of the connecting structure before it is connected. Claims 9-11 are reciting an already connect structure.***

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima (US 4,425,382).

Tajima discloses forming a first layer of a first adhesive and substantially insulating material on the surface of a conductive support, depositing particles of an electrically conductive material on the surface of said first layer before said first material is hardened, and forming a second layer of a second adhesive and substantially insulating material on the particle deposited surface of said first layer such that the conductive particles become completely embedded. As a result the particles are firmly held in the adhesive layer (Column 2, lines 39-61). The second adhesive material is the preferably the same as the first adhesive material because adhesiveness of the particles may be enhanced.

Tajima do not specifically teach that the second adhesive layer is thicker than the first adhesive layer and that the first adhesive layer is thicker than the width of the conductive particles.

However, it would have been obvious to one having ordinary skill in the art to optimize the thickness of the two adhesive layer given that thicknesses of adhesive layers can be varied to obtain the desired adhesive properties.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (571)272-1504. The examiner can normally be reached on Monday-Friday from 6am to 2pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571)272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sheeba Ahmed
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April 18, 2006